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Attorney Docket 2007-1005
PATENT



IN THE U.S. PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Peter Wilhelmus Henricus RIETJENS Appeal No. _____

Application No. 10/750,906 Group 3721

Filed January 5, 2004 Examiner Sameh Tawfik

DEVICE FOR MANUFACTURING RECLOSABLE
PACKAGINGS

APPEAL BRIEF

MAY IT PLEASE YOUR HONORS:

1. Real Party in Interest

The real party in interest in this appeal is the assignee, CFS WEERT B.V. of Weert, Netherlands.

2. Related Appeals and Interferences

Neither the appellant, the appellant's representative nor the assignee know of any other prior and pending appeals, interferences or judicial proceedings which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

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3. Status of the Claims

Claims 1-27, 49 and 50 are pending. Claims 1, 6, 8-16, 19-21, 49 and 50 were rejected, from whose final rejection this appeal is taken. Claims 2-5, 7, 17, 18 and 22-27 were indicated as allowable.

4. Status of Amendments

No amendment has been made subsequent to the May 16, 2005 final rejection.

5. Summary of Claimed Subject Matter

The invention relates to a device for making bag-shaped packaging from a web of sheet material and is referred to as a form-fill-seal machine.

As is known from the disclosure on page 1, line 14 to page 2, line 3 the conventional form-fill-seal machine includes a form fill unit having a form tube. As the sheet material is unrolled from a supply roll, the sheet material comes into contact with the form fill unit. The form fill unit causes a rear side of the sheet material to overlap with the front side of the material to form a sleeve.

As is also known from the disclosure on page 2, lines 19-28 the conventional device also includes transverse sealing jaws that are reciprocally movable toward and away from each

other to seal the ends of the sleeve and a longitudinal seal device that creates a severable seal near the overlap. The transverse seals and longitudinal seal together function to seal the packages as bag-shaped packages.

The form-fill-seal device of the present invention incorporates each of the above-noted elements as follows with respect to Figure 1.

The sheet material F is unrolled from supply roll 3 and is fed through various rollers before coming into contact with form fill unit 10, which includes form tube 14 and forming shoulder 13. See page 14, lines 9-24 for further description of the form fill unit 10. The present device also includes transverse sealing jaws 71 and longitudinal sealing means 20, 20' as best seen in Figures 1A and 1E.

Accordingly, the device of the present invention differs from the disclosed prior art, at least in one respect, based on the position of the longitudinal sealing means.

Specifically, the longitudinal sealing device of the conventional form-fill-seal machine is at the front of the form fill tube, whereas the recited longitudinal sealing means is at one lateral side of the form fill tube.

The location of the longitudinal sealing means is significant, because as is known from the disclosure on page 14, lines 17-19, various different bag-shaped packages can be made using the same form-fill-seal machine. Making these different

bag-shaped packages using the same form-fill-seal machine entails replacing one form fill unit with another form fill unit.

However, since the longitudinal seal device of the conventional machine is at the front of the machine, the conventional longitudinal seal device must be removed prior to exchanging the form fill units.

The present invention overcomes this problem by providing the longitudinal sealing means 20, 20' at a lateral side of the form tube. This is accomplished in part by modifying the form fill unit to include an asymmetrical form shoulder 13 as disclosed on page 3, lines 15-22 in conjunction with Figures 1A and 1E.

By having an asymmetrical form shoulder, the overlap of the web extends to one side of the forming tube (the left-hand side as seen in Figure 2B). Having an overlap that extends to one side enables the longitudinal sealing means 20, which includes sealing surface 23b, to be located at one lateral side of the fill tube (as considered from the front) as disclosed on page 3, lines 24-29. Such an arrangements enables ready removal of the form fill unit without having to remove the longitudinal sealing device.

The invention defined in independent claim 1 is a form-fill-seal machine that has an asymmetrical shoulder shaped for forming an overlap in the foil tube and a first longitudinal sealing means positioned at a first lateral side of the form-fill tube, as seen from the front of the machine, for forming a

severable longitudinal seal at the location of the overlap.

Independent claim 19 is the only other independent claim on appeal and also recites an asymmetrically shaped form shoulder for forming an overlap in the foil tube and a first longitudinal sealing means positioned at one lateral side of the form-fill tube, as considered from the front of the machine, for forming a severable longitudinal seal at the location of the overlap.

6. Grounds of Rejection to be Reviewed on Appeal

Claims 1, 6, 8-16, 19-21, 49 and 50 were rejected under §103(a) as being unpatentable over FUKUDA 5,279,098.

7. Arguments

Arguments Concerning the First Ground of Rejection

Claims 1, 6, 8-16, 19-21, 49 and 50 were rejected under §103(a) as being unpatentable over FUKUDA 5,279,098.

Claim 1 recites an asymmetrical shoulder shaped for forming an overlap in the foil tube and a first longitudinal sealing means positioned at a first lateral side of the form-fill tube, as seen from the front of the machine, for forming a severable longitudinal seal at the location of the overlap.

The Examiner correctly notes that FUKUDA teaches a former 98 with a fill tube extending below the former and heater belt 102 that provides a longitudinal seal at an overlap. Accordingly, the propriety of the rejection on appeal turns on the

relative position of the heater belt with respect to the form fill tube, the shape of the former and the position of an overlap formed by the former.

The Examiner's position is that "it is inherent all FUKUDA's stations are linkage connected, which makes it inherent that heater belt 102 is somehow connected with the rest of the machine, which could be considered as positioned at a first side, at one lateral side of the form-fill tube."

However, such conclusion is neither tenable based on inherency nor based on how the skilled artisan would understand the teachings of FUKUDA, nor, more importantly, sufficient to establish *prima facie* obviousness.

First, as to an inherency rejection, the Federal Circuit has held "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Based on a reasonable interpretation of Figure 1 of FUKUDA, the film material W is unwound from the supply roll 97 at the rear of the machine. The web W passes over various rollers and then is shaped at the front of the machine by former/form-fill

tube 98. Using this designation of "front" and "rear", the heater belt of FUKUDA would be considered as being located at the front of the form-fill tube.

Since the above noted designations of "front" and "rear" are not unreasonable, then one could reasonably construe the heater belt of FUKUDA as being at the front of the form-fill tube, and thus the heater belt would necessarily not be at one lateral side of the form-fill tube as required to establish inherency.

Accordingly, the Examiner's position of inherency is untenable.

Second, one of ordinary skill in the art would interpret the teachings of FUKUDA based on the disclosure of FUKADA itself and such disclosure establishes the relative positions of the transverse sealing jaws 40 and the heater belt 102 that is different from that which is recited.

Specifically, Figure 2 of FUKUDA shows (by broken lines) a D-shaped trajectory, which is a vertical plane of movement of transverse sealing jaws 40. A marked-up version of Figure 2 of FUKUDA is included in the Evidence Appendix adding axes X, Y and Z.

As seen from this marked-up version, the movement of the sealing jaws 40 of FUKUDA corresponds essentially to the X-Y plane. Accordingly, the planes that are perpendicular to the X-Y plane are the Y-Z plane and the X-Z plane. Based on the forces of gravity, the goods to be packaged in FUKUDA move from the top of

the machine to the bottom of the machine. Using the above logic, plane X-Z corresponds to the top or bottom of the machine.

Therefore, in order to meet the recited limitation of the transverse sealing jaws being moveable towards and away from each other in a vertical plane perpendicular to a front side of the machine, one of ordinary skill in the art would understand that the front side of the machine of FUKUDA is essentially in the Y-Z plane.

Returning to Figure 1 of FUKUDA, it is seen that the heater belt 102 is also in the Y-Z plane and thus on the front side of the machine. Therefore, based on the disclosure and drawings of FUKUDA, one of ordinary skill in the art would understand that the heater belt of FUKUDA is on the front side of the machine, not to one lateral side as recited.

Third, a statement of what could be done to modify a reference is insufficient to establish *prima facie* obviousness when the proposed modification of the reference changes the principle of operation of such reference.

Contrary to the Examiner's assertion, the positions of the pull-down belts 101 and the heater belt 102 are not a matter of engineering design choice as suggested in the Advisory Action mailed September 1, 2005 and modifying FUKUDA in the manner suggested would change the principle of operation of FUKUDA.

FUKUDA requires his heater belt to be at the front of the former 98 because that is where the mutually overlapping edge

portions of the film of FUKUDA, which are to be sealed, are found. The former of FUKUDA is symmetrical such that the sheet material goes around a cylindrical form tube to overlap in front of the machine of FUKUDA and is then sealed using the longitudinal sealing device. See Figure 1 and column 1, lines 30-41 of FUKUDA.

Placing the heater 102 of FUKUDA at a lateral side of the machine would not only change the principle of operation of FUKUDA, but would also render FUKUDA unsatisfactory for its intended purpose of sealing bags. Since the overlap of FUKADA occurs at the front of the device of FUKUDA, changing the heater 102 to the side of the device would not allow the overlap to be sealed.

Moreover, in order to accommodate the heater 102 at the side, the pull-down belts 101 would have to be moved to the front, which would defeat the purpose of not having the heater at the front, because then the pull-down belts would have to be removed prior to exchanging one form fill unit for another instead of having to remove the heater.

FUKUDA suffers from the same shortcomings as applicant's disclosed prior art form-fill-seal machine and teaches a longitudinal sealing device, heater 102 at a front of the machine (in front of the form fill tube) and does not teach or suggest a first longitudinal sealing means that are positioned at a first side, at one lateral side of the form-fill tube, as recited.

As to the former 98 of FUKUDA and the position of the

overlap formed by the former 98, as set forth above these limitations are not met by FUKUDA.

Specifically, as seen in Figure 12 and as disclosed on column 1, lines 26 to 41 of FUKUDA the shoulder shaped former is substantially symmetrical about the cylindrical loading cylinder to form a cylindrical tube having an overlap at a front of the cylindrical tube.

It appears that the only way to have the overlap at a side of the fill tube would require rotating the supply roll 97, each of the rollers 105, the pull-down belts 101 and the shoulder 98 (202) by 90 degrees. This is neither suggested by FUKUDA nor does such modification seem practicable and would in any event change the principle of operation of FUKUDA.

The Court of Customs and Patent Appeals has held that if the proposed modification would change the principle of operation of the reference being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959).

Since there is no teaching or suggestion in FUKUDA to modify the device of FUKUDA in the manner suggested and since such modification would change the principle of operation of FUKUDA, the teachings of FUKUDA are not sufficient to render the claims *prima facie* obvious.

Accordingly, FUKUDA does not teach or suggest what is recited in claims 1 and 19 and thus, claims 1 and 19 and the

claims that depend therefrom are believed patentable over FUKUDA.

Arguments Concerning the Rejection of Claim 6

Claim 6 depends from allowable claim 2 and should be allowable at least for the same reasons that claim 2 is allowable.

Arguments Concerning the Rejection of claim 15

Claim 15 recites that the fill tube has a substantially rectangular cross-section.

The Examiner's position is that the term "substantially" so modifies the recited "rectangular cross-section" that the cylindrical fill tube of FUKUDA meets this limitation. See column 1, lines 25-30 of FUKUDA, which teach a loading cylinder.

However, the Examiner's position is not supported by the accepted view of the term "substantially".

'Words such as "substantially," "approximately," and "about," are often used in claims to prevent a substantial infringer from avoiding infringement by making a minor modification. While the modifier does certainly broaden the term that it modifies to some degree, it cannot be allowed to negate the meaning of the word it modifies.' *Arvin Industries, Inc. v. Berns Air King Corp.*, 525 F. 2d 182, 188 U.S.P.Q. 49, 51 (7th

Cir. 1975); *Borg-Warner Corp. v. Paragon Gear Works, Inc.*, 355 F.2d 400, 148 U.S.P.Q. 1, 4 (1st Cir. 1965), *cert. dismissed*, 384 U.S. 935, 149 U.S.P.Q. 905 (1966).

Even taking into account the modifier "substantially" as modifying the recited tube to less than rectangular, one of ordinary skill in the art would not characterize the cylindrical tube of FUKUDA as substantially rectangular. Therefore, FUKUDA does not meet the limitations of claim 15.

Arguments Concerning the Rejection of claim 16

Claim 16 recites that a first side of the fill tube has a flat surface. The cylindrical tube of FUKADA would by definition not have a flat surface. The term "flat" is defined as having a surface without a slope, tilt, or curvature. *The American Heritage® Dictionary of the English Language, Fourth Edition*.

Accordingly, FUKUDA does not meet the limitations of claim 16.

Arguments Concerning the Rejection of claim 50

Claim 50 recites that the machine is a step-wise or discontinuously operative machine.

Column 1, lines 47-50 of FUKUDA teach that the machine of FUKUDA is continuously operable. FUKUDA does not teach or suggest a step-wise or discontinuously operative machine.

Accordingly, claim 50 is believed patentable regardless of the patentability of the claims from which it depends.

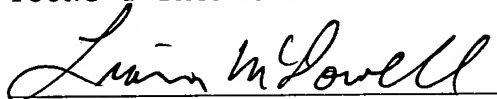
In view of the foregoing, it follows that the rejection of claims 1, 6 8-16, 19-21, 49 and 50 as unpatentable under §103(a) as obvious over FUKUDA is improper and should be reversed.

Reversal of these rejections is accordingly respectfully solicited.

Respectfully submitted,

YOUNG & THOMPSON

By



Liam McDowell
Attorney for Appellant
Registration No. 44,231
745 South 23rd Street
Arlington, VA 22202
Telephone: 521-2297

LM:fb

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8. Claims Appendix

The pending claims:

1. Form-fill-seal machine for making bag-shaped packagings for products from a web of foil material, the machine comprising:

a frame having a stock of web of foil material and a supply of the web of foil material in flat condition;

a form-fill unit positioned at a front side of the machine, said form-fill unit comprises a form shoulder for transforming the flat web of foil material into a foil tube, and a form-fill tube connecting to the form shoulder, having a vertical main plane of section;

transverse sealing jaws that are positioned below a lower end of the form-fill tube for forming transverse seals in the foil tube and which are moveable towards and away from each other in a vertical plane perpendicular to a front side of the machine and said vertical main plane of section, the form shoulder being asymmetrically shaped for forming an overlap in the foil tube which extends to at least a short distance from or near said vertical main plane of section; and

first longitudinal sealing means that are positioned at a first side, at one lateral side of the form-fill tube, as considered from the front side of the machine, at a short distance from or near said vertical main plane of section, for forming a first, severable longitudinal seal at the location of the overlap.

2. Form-fill-seal machine according to claim 1, furthermore provided with second longitudinal sealing means positioned at a second side, at one lateral side of the form tube, as considered from the front side of the machine, opposite the first side, for forming at least one longitudinal seal in the foil tube.

3. Form-fill-seal machine according to claim 2, wherein two longitudinal sealing means are provided that are positioned at either side of, preferably equidistant from, the vertical plane of section.

4. Form-fill-seal machine according to claim 3, wherein the form-fill unit at the second side is provided with two protruding form strips for forming longitudinal folds in the foil tube, wherein the second longitudinal sealing means are positioned for sealing the longitudinal folds.

5. Form-fill-seal machine according to claim 4, wherein second longitudinal sealing means comprise an anvil/form member, that extends between both longitudinal folds for positioning them for sealing.

6. Form-fill-seal machine according to claim 2, wherein the position of at least one of the first and second longitudinal sealing means is adjustable in a direction towards/away from the fill tube.

7. Form-fill-seal machine according to claim 5, wherein the anvil/form member forms an interchangeable part.

8. Form-fill-seal machine according to claim 1, wherein the form-fill unit is detachably placed in the machine.

9. Form-fill-seal machine according to claim 1, wherein the form/fill tube at the first side at the lower end is provided with a first protrusion, situated in or near the vertical plane of section and extending downwards, and which in horizontal direction is free from the remainder of the lower end of the fill tube.

10. Form-fill-seal machine according to claim 9, wherein the first protrusion is pen- or lip-shaped.

11. Form-fill-seal machine according to claim 9, wherein the first protrusion with its end extends beyond the profile of the fill tube.

12. Form-fill-seal machine according to claim 9, wherein the form/fill tube at its lower end is furthermore provided with at least a second protrusion, which is at least situated at the second side and defines a recess with the first protrusion.

13. Form-fill-seal machine according to claim 12, wherein the second protrusion forms a sharp guiding edge, particularly substantially oriented towards the bottom.

14. Form-fill-seal machine according to claim 12, wherein two second protrusions are present, which extend on either side of the vertical plane of section and preferably keep an area free between them, in which area a fold-maker is able to extend, wherein the two second protrusions preferably are connected to

each other by a plate, for instance a V-shaped plate, which is forming a cavity for the inwardly folded bottom area to be made.

15. Form-fill-seal machine according to claim 1, wherein the fill tube has a substantially rectangular cross-section, having the main sides substantially parallel to the vertical main plane of section.

16. Form-fill-seal machine according to claim 15, wherein the first side of the form and fill tube is bent having a flat surface between bent transitions to the main sides.

17. Form-fill-seal machine according to claim 1, furthermore provided with means for arranging a strip of doublesided adhesive tape on the web of foil material in the area of the intended overlap.

18. Form-fill-seal machine according to claim 17, wherein the first longitudinal sealing means are positioned for arranging the severable longitudinal seal at the side of the strip of doublesided adhesive that faces away from the outer longitudinal edge of the overlap.

19. Form-fill-seal machine for making bag-shaped packagings for products from a web of foil material, the machine comprising:

a frame having a stock of web of foil material and a supply of the web of foil material in flat condition;

a form-fill unit positioned at a front side of the machine, said form-fill unit comprises a form shoulder for

transforming the flat web of foil material into a foil tube, and a form-fill tube connecting to the form shoulder, having a vertical main plane of section;

transverse sealing jaws that are positioned below a lower end of the form-fill tube for forming transverse seals in the foil tube and which are moveable towards and away from each other in a vertical plane perpendicular to a front side of the machine and said vertical main plane of section, the form shoulder being asymmetrically shaped for forming an overlap in the foil tube which extends from a front side of the form-fill tube to a first lateral side; and

first longitudinal sealing means positioned near said first lateral side, at one lateral side of the form tube, as considered from the front side of the machine, for forming a first, severable longitudinal seal at the location of the overlap.

20. Form-fill-seal machine according to claim 19, wherein the overlap ends at the first side at at least a short distance from or near the said vertical plane of section.

21. Form-fill-seal machine according to claim 20, wherein the first longitudinal sealing means are positioned at a short distance from or near the said vertical main plane of section.

22. Form-fill-seal machine for making bag-shaped packagings for products from a web of foil material, the machine comprising:

a frame having a stock of web of foil material and a supply of the web of foil material in flat condition;

a form-fill unit, the form-fill unit comprising an asymmetrical form shoulder for transforming the flat web of foil material into a foil tube, while forming an overlap, and a form-fill tube connecting to the form shoulder, said form-fill tube has a substantially rectangular cross-section and is positioned in the machine having a first main side facing away from the machine and a second main side facing the machine,

wherein the form shoulder is designed for forming the overlap at at least the first or second main side,

wherein the form-fill unit at a first short side of the form-fill tube is provided with two protruding form strips for forming longitudinal folds in the foil tube,

wherein the form-fill unit is furthermore provided with first longitudinal sealing means for forming a first, severable longitudinal seal in the area of the overlap and with second longitudinal sealing means for forming second longitudinal seals at the location of the longitudinal folds,

wherein the form-fill-seal machine is furthermore provided with means for applying a strip of doublesided adhesive tape on the web of foil material in the area of the intended overlap,

wherein the form-fill-seal machine is furthermore provided with transverse sealing means positioned below the fill-

form unit for forming transverse seals in the foil tube and with means for severing said transverse seals at the location of the transverse seals.

23. Form-fill-seal machine according to claim 22, wherein the means for arranging the severable seal are positioned for arranging the severable seal at the side of the strip of doublesided adhesive facing away from the outer longitudinal edge of the overlap.

24. Form-fill-seal machine according to claim 22, wherein the second longitudinal sealing means are positioned at the second short side of the form-fill tube.

25. Form-fill-seal machine according to claim 22, wherein the first short side of the form-fill tube is bent having a flat surface between bent transitions to the main sides.

26. Form-fill-seal machine according to claim 22, wherein the form-fill unit is detachably arranged on the frame.

27. Form-fill-seal machine according to claim 22, wherein the first longitudinal sealing means and/or the second longitudinal sealing means are detachably arranged on the frame.

28-48. (canceled)

49. Form-fill-seal machine according to claim 1, designed as a continuously operative machine.

50. Form-fill-seal machine according to claim 1, designed as a step-wise or discontinuously operative machine.

9. Evidence Appendix:

The Appendix includes the following item:

- a marked-up version of Figure 2 of FUKUDA adding axes for explaining the positional relation of the elements of FUKUDA.

